

Amendments to the Claims

The following listing of the claims will replace all prior versions, and listings of the claims in the application:

Listing of Claims

1. (Currently Amended) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity comprising: ~~by means of a magnetic field generating means and a magnetic field detecting means characterized in that~~
a the magnetic field generating means is attached to the insertion portion of the medical insertion tool[[:]], the magnetic field generating means is being made of a permanent magnet or a ferromagnetic body which ~~can generate~~ generates a magnetic field without applying an electric current to a conductor; and

~~the a magnetic field detecting means is disposed outside the body cavity, and the magnetic field detecting means including plural at least three magnetic sensors, each of the magnetic sensors having triaxial directivity to the generated magnetic field to be detected, each of the magnetic sensors having triaxial directivity being formed by combining plural sensors respectively having uniaxial directivity, wherein signals from only two of the at least three magnetic sensors which are closest to the magnetic field generating means are used for detection.~~

2. (Currently Amended) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 1, wherein the two of the at least three of the magnetic sensors field detecting means includes at least three magnetic sensors having triaxial directivity which are equally spaced around a scope to be detected.

3. (Currently amended) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 1, wherein the each magnetic sensor of the magnetic field detecting means is a magneto-impedance effect element.

4. (Currently amended) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 2, wherein the each magnetic sensor of the magnetic field detecting means is a magneto-impedance effect element.

5. (Original) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 1, wherein the medical insertion tool is selected from among indwelling tools inside the body cavity such as a catheter, a guide wire, an endoscope or a drainage tube, a biliary stent, a high calorie transfusion tube.

6. (Original) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 2, wherein the medical insertion tool is selected from among indwelling tools inside the body cavity such as a catheter, a guide wire, an endoscope or a drainage tube, a biliary stent, a high calorie transfusion tube.

7. (Original) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 3, wherein the medical insertion tool is selected from among indwelling tools inside the body cavity such as a catheter, a guide wire, an endoscope or a drainage tube, a biliary stent, a high calorie transfusion tube.

8. (Original) A device for detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 4, wherein the medical insertion tool is selected from among indwelling tools inside the body cavity such as a catheter, a guide wire, an endoscope or a drainage tube, a biliary stent, a high calorie transfusion tube.

9. (Currently Amended) A method of detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity ~~by means of a magnetic field generating means and a magnetic field detecting means~~ comprising the steps of:

generating a magnetic field ~~through the~~ by a magnetic field generating means made of a permanent magnet or a ferromagnetic body attached to the insertion portion without applying an

electric current to a conductor, in a state wherein the insertion portion thereof is inserted inside the body cavity,

~~disposing at least three measuring the generated magnetic field by means of the plural magnetic sensors having the triaxial directivity to the generated magnetic field to be detected~~[[,]] ~~which are disposed~~ outside the body cavity, each of the magnetic sensors having triaxial directivity ~~being~~ formed by combining plural sensors respectively having uniaxial directivity, and

detecting a three dimensional position and a three dimensional orientation of the insertion portion of the medical insertion tool using signals from only two of the at least three magnetic sensors which are closest to the magnetic field generating means.

10. (Currently Amended) A method of detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 9, wherein the two of the at least three of the magnetic sensors field detecting means includes at least three magnetic sensors having triaxial directivity which are equally spaced around a scope to be detected.

11. (Currently amended) A method of detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 9, wherein a magneto-impedance effect element is used as the each magnetic sensor of the magnetic detecting means.

12. (Currently amended) A method of detecting a position and an orientation of an insertion portion of a medical insertion tool inside a body cavity according to claim 10, wherein a magneto-impedance effect element is used as the each magnetic sensor of the magnetic detecting means.